

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY INTERACTIVE ENTERTAINMENT LLC,
Petitioner,

v.

QUANTUM IMAGING LLC,
Patent Owner.

IPR2023-00959
Patent 10,255,724 B2

Before SCOTT A. DANIELS, KEVIN W. CHERRY, and
JAMES J. MAYBERRY, *Administrative Patent Judges*.

MAYBERRY, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Sony Interactive Entertainment LLC (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–7, 9–14, 16, 18, and 20–23 (the “Challenged Claims”) of U.S. Patent No. 10,255,724 B2 (Ex. 1001, the “’724 patent”). Paper 2 (“Pet.”), 1. Quantum Imaging LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 9 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2023) (permitting the Board to institute trial on behalf of the Director). To institute an *inter partes* review, we must determine that the information presented in the Petition shows “a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Instituting an *inter partes* review, however, is discretionary. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”). For the reasons set forth below, we institute an *inter partes* review.

B. *Real Parties-in-Interest*

Petitioner identifies itself and Bluepoint Games, Inc., Sony Group Corporation, and Sony Corporation of America as the real parties-in-interest. Pet. 1. Patent Owner identifies itself as the real party-in-interest. Paper 5, 2.

C. *Related Matters*

The parties each identify the following district court litigation as a matter related to the ’724 patent: *Quantum Imaging LLC v. Sony Group Corporation, et al.*, Case No. 6:22-cv-00573-ADA-DTG (W.D. Texas) (filed on June 3, 2022) (the “Litigation”). Pet. 2; Paper 5, 2. Petitioner indicates

that Sony Group Corporation and Sony Corporation of America have been dismissed from the Litigation. Pet. 2 n.1.

Patent Owner identifies U.S. Patent Numbers 8,458,028 (the “’028 patent”), 10,846,941 (the “’941 patent”), and 10,991,165 (the “’165 patent”) as related to the ’724 patent and as asserted in the Litigation. Paper 5, 2. Patent Owner also identifies U.S. Patent Numbers 11,195,333; 7,373,377; 8,228,325; and 8,225,220; and U.S. Application Number 15/817,815 as related to the ’724 patent. *Id.* at 2–3.

The ’028 patent, ’941 patent, and ’165 patent have been challenged in IPR2023-00954, IPR2023-00995, and IPR2023-00996, respectively.

D. The ’724 Patent

The ’724 patent, titled “Interactive Virtual Thematic Environment,” issued April 9, 2019, from application US 13/137, 299, filed August 4, 2011. Ex. 1001, codes (54), (45), (21), (22). The ’724 patent ultimately claims priority through two divisional applications, the earlier of which was filed March 22, 2004, and a continuation-in-part application, filed October 16, 2002. The ’724 patent “relates to an interactive software application platform which can be used in entertainment, business, publishing, and other applications to provide a virtual and real world experience to the user by integrating audio, video, two dimensional (2D), and three dimensional (3D) technology, and other applications or services.” Ex. 1001, 1:21–26. We reproduce Figure 1 from the ’724 patent, below.

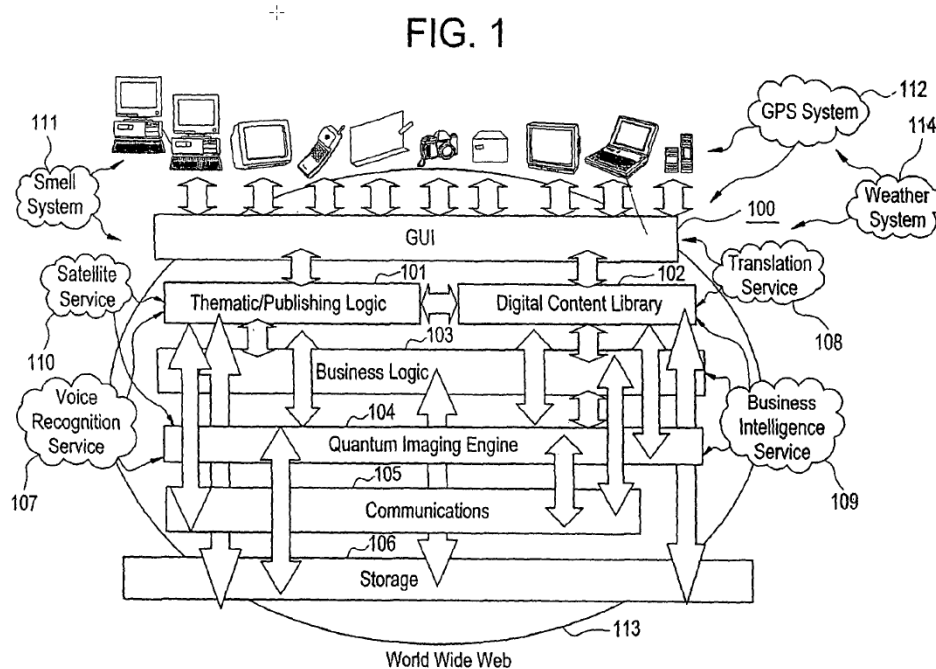


Figure 1 depicts “a schematic . . . of the six-level logical architecture of an interactive software platform.” Ex. 1001, 6:33–35. The program of the present invention is in a Quantum Imaging Environment (QIE). *Id.* at 11:47–48. The virtual platform architecture includes six layers (or modules): “(1) a graphical user interface (GUI) 100, 2) a Thematic/Publishing Logic 101 and a Digital Content Library 102, 3) a Business Logic 103, 4) a thematic or zone application builder and interpreter (i.e., a Quantum Imaging Engine 104), 5) Communications 105, and 6) a Data Storage 106.” *Id.* at 11:53–58. The logical architecture also includes six service area modules: “(1) voice recognition 107, 2) language translation services 108, 3) business intelligence 109, 4) satellite transmission 110, (5) a synthesized smell system 111, and (6) a GPS system 112, fully distributed across the world wide web (WWW) 113.” *Id.* at 11:65–12:3.

This logical architecture “may be used in a client-server context, or may be a distributed system across a number of client systems,” such that “a particular operation may be performed either at the client or the server, at the

edge of a network or at the center, or both.” Ex. 1001, 12:18–23. “In a client-server environment, at least one client and at least one server are each connected to a network such as a Local Area Network (LAN), Wide Area Network (WAN), and/or the Internet, over a communication link.” *Id.* at 12:26–29; *see also id.* at 14:46–19:24 (describing client-server environment), Fig. 2 (depicting client-server environment).

In a gaming environment, the Thematic/Publishing Logic may “grab” data or objects from an external website to be used in the game environment. Ex. 1001, 17:8–15.

E. Challenged Claims

The Petition challenges claims 1–7, 9–14, 16, 18, and 20–23. Pet. 1. Claim 1 is the sole independent claim, and is reproduced below.

1. A computer system having an interactive software application platform for providing a virtual thematic environment, comprising:

[a] a processor which executes a program having a plurality of modules, said plurality of modules including:

[b] at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment, the at least one thematic/publishing logic module being configured to allow a user to interact within said virtual thematic environment and upon a predetermined action within said virtual thematic environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment;

[c] wherein said data or said objects are automatically integrated into the virtual thematic environment during execution of the virtual thematic environment;

[d] at least one digital content library module which provides content management on the virtual thematic environment; and

[e] at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device; and
[f] a display which displays the virtual thematic environment as images.

Ex. 1001, 43:36–62¹.

F. Prior Art and Asserted Grounds

Petitioner asserts that the Challenged Claims are unpatentable based on two grounds:

Claims Challenged	35 U.S.C. §	References/Basis
1–7, 9–14, 16, 18, 20–23	103(a) ²	Angles ³ and knowledge of a person of ordinary skill in the art
1–7, 9–14, 16, 18, 20–23	103(a)	Robinson ⁴ and knowledge of a person of ordinary skill in the art

Pet. 4.

Petitioner also relies on the declaration testimony of Mr. David Crane. Ex. 1004; *see also* Ex. 1005 (providing Mr. Crane’s Curriculum Vitae).

The following subsections provide brief descriptions of the asserted prior art references.

¹ We use Petitioner’s indicators for the limitations. *See, e.g.*, Pet. 19 (indicating limitation 1[a]), 20 (indicating limitation 1[b]), 22 (indicating limitation 1[c]), 23 (indicating limitation 1[d]), 24 (indicating limitation 1[e]), 25 (indicating limitation 1[f]).

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 296–07 (2011), took effect on September 16, 2011. The changes to 35 U.S.C. §§ 102 and 103 in the AIA do not apply to any patent application filed before March 16, 2013. Because the latest possible priority date for the ’724 patent is before March 16, 2013, we refer to the pre-AIA version of the statute.

³ US 5,933,811; issued Aug. 3, 1999 (Ex. 1007, “Angles”).

⁴ US 7,168,051 B2; issued Jan. 23, 2007, from an application filed Dec. 20, 2000 (Ex. 1008, “Robinson”).

1. *Angles (Ex. 1007)*

Angles, titled “System and Method for Delivering Customized Advertisements within Interactive Communication Systems,” issued August 3, 1999. Ex. 1007, codes (54), (45). Angles discloses systems and methods that provide an on-line advertising service that can customize advertisements to a particular consumer. *Id.* at 2:45–49. We reproduce Angles’s Figure 9, below.

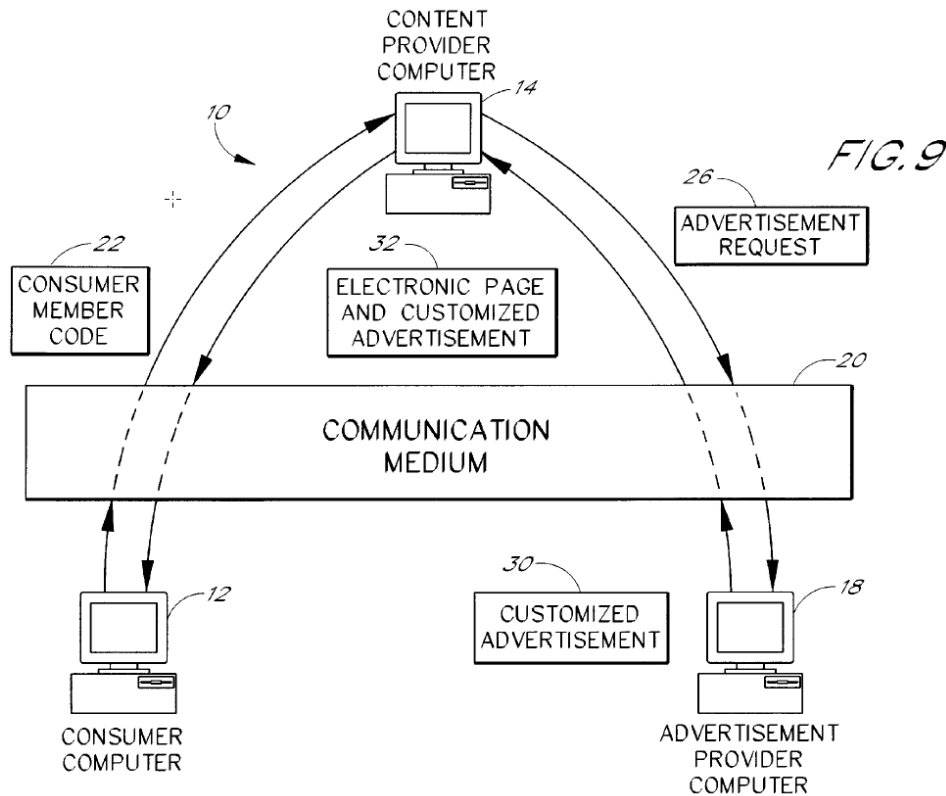


Figure 9 provides “a block diagram . . . of the present invention wherein the customized advertisement is sent through the content provider computer prior to reaching the consumer computer.” Ex. 1007, 5:10–13. Content provider 14 receives a customized advertisement 40 and incorporates it into electronic page 32. *Id.* at 21:34–40. Content provider computer 14 forwards electronic page 32, which includes customized advertisement 30, to consumer computer 12. *Id.* at 21:40–42. Consumer

computer 12 displays electronic page 32 to the consumer, with electronic page 32 appearing to the consumer like all other electronic pages 32 on Internet 33, except that it contains a customized advertisement pre-selected for that consumer. *Id.* at 21:43–52.

Content provider computer 14 can integrate customized advertisements 30 into offerings such as on-line games. In one example, provider computer 14 offers consumers on-line games such as interactive car races. *Id.* at 21:55–62. Content provider computer 14 can integrate customized advertisements 30 into signs and billboards that appear in the interactive car race. *Id.* at 21:63–65.

2. *Robinson (Ex. 1008)*

Robinson, titled “System and Method to Configure and Provide a Network-Enabled Three-Dimensional Computing Environment,” issued January 23, 2007, from application US 09/745,257, filed December 20, 2000. Ex. 1008, codes (54), (45), (21), (22). Robinson’s “technology enables users to interact fully, intuitively and far more easily ‘in’ a spatial 3D environment. This technology enables each user to create an intuitive 3D desktop environment tailored to their specific needs.” *Id.* 1:55–59. We reproduce Robinson’s Figure 9, below.

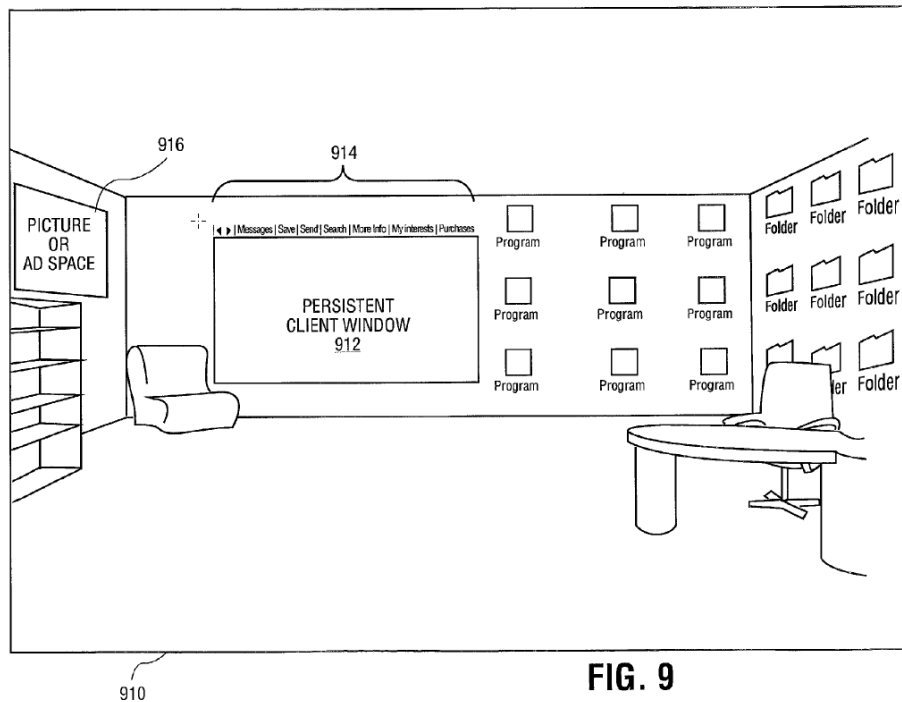


FIG. 9

Figure 9 depicts “an example of a user desktop [910] illustrating the presence of the Persistent Client Window [914].” Ex. 1008, 2:24–25.

Persistent Client Window 912 includes toolbar 914, which provides features through which a user may interact with Persistent Client 565. *Id.* at 14:21–23. “Advertisements, messages, pictures, video and other information or data contained within Persistent Client Window 912 can be moved to the desktop and vice versa through conventional drag-and-drop procedures.” *Id.* at 15:1–4.

Region 916 of the desktop allows for positioning two-dimensional or three-dimensional advertisements, pictures, promotions, or messages. Ex. 1008, 15:11–14. A user may select a portion of region 916, to expand the advertisement or be taken to a related website. *Id.* at 15:17–25.

Robinson’s three-dimensional computing environment may be extended to include online games. Ex. 1008, 9:29–37.

II. ANALYSIS

A. Legal Standards

Section 103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when available, evidence such as commercial success, long felt but unsolved needs, and failure of others.⁵ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *see KSR Int’l Co.*, 550 U.S. at 407 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”). The Court in *Graham* explained that these factual inquiries promote “uniformity and definiteness,” for “[w]hat is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context.” 383 U.S. at 18.

The Supreme Court made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR Int’l Co.*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established

⁵ The parties do not direct us to any objective evidence of non-obviousness at this stage of the proceeding.

functions. *Id.* at 417. To support this conclusion, however, it is not enough to show merely that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness additionally requires that a person of ordinary skill at the time of the invention “would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention.” *Id.*

“[O]bviousness must be determined in light of *all the facts*, and . . . a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine” teachings from multiple references. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (emphasis added); *see also PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014) (“The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact.”). As a factfinder, we also must be aware “of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *KSR Int’l Co.*, 550 U.S. at 421.

For institution, “[t]he ‘reasonable likelihood’ standard is a somewhat flexible standard that allows the Board room to exercise judgment.” Patent Trial and Appeal Board Consolidated Trial Practice Guide 53 (Nov. 2019), *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

B. Level of Ordinary Skill in the Art

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). “This reference point prevents . . . factfinders from using their own insight or, worse yet, hindsight, to gauge obviousness.”

Id. Factors pertinent to a determination of the level of ordinary skill in the art include: (1) educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of workers active in the field. *Env't Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–97 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case. *Id.* Moreover, these factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). In determining a level of ordinary skill, we also may look to the prior art, which may reflect an appropriate skill level. *Okajima*, 261 F.3d at 1355.

Petitioner asserts that a person of ordinary skill in the art would have had

a bachelor's degree in computer engineering, computer science, or a similar discipline, and/or two years of professional experience in the fields of networking and network-based systems or applications, such as client-server and web-based systems, in the specific context of console and gaming or an equivalent level of skill, knowledge, and experience.

Pet. 9. Petitioner adds that a person having ordinary skill in the art “would have at least a general knowledge of online and in-game advertising methods prevalent in the field, as well as at least a general knowledge of 3D rendering and virtual reality.” *Id.* (referencing Ex. 1004 ¶¶ 41–44).

Patent Owner “applies Petitioner’s characterization.” Prelim. Resp. 5.

For purposes of this Decision, based on the prior art, the sophistication of the technology at issue, and Mr. Crane’s Declaration testimony, we adopt Petitioner’s undisputed definition of the level of ordinary skill.

C. Claim Construction

We construe each claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b).” 37 C.F.R. § 42.100(b). Under this standard, claim terms are generally given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc) (“We have frequently stated that the words of a claim ‘are generally given their ordinary and customary meaning.’” (citations omitted)).

“Petitioner believes that no express constructions of the claims are necessary to assess whether the prior art reads on the Challenged Claims.” Pet. 10⁶. Patent Owner does not raise any claim construction issues. Prelim. Resp. 5.

We determine that we need not expressly construe any claim terms to resolve the parties’ disputes on the record before us. *See Realtime Data*,

⁶ Petitioner states that its contentions satisfy constructions for the terms “graphics user interface (GUI) module” and “virtual thematic environment” arrived at in a case separate from the underlying Litigation, namely, *Barbaro Technologies, LLC v. Niantic, Inc.*, No. 3:18-cv-02955, in the U.S. District Court for the Northern District of California, involving related patents. Pet. 11–12; *see* Ex. 1010. Notably, neither party has formally proffered the *Niantic* Court’s constructions as binding on the Board or parties in this proceeding.

LLC v. Iancu, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms that . . . are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). To the extent that the scope of any particular claim term requires discussion, however, we provide it in our assessment of the challenges, which we turn to next

D. Ground 2: Claims 1–7, 9–14, 16, 18, and 20–23 as unpatentable over Robinson

Petitioner contends that Robinson, in view of the knowledge of a person having ordinary skill in the art, teaches or suggests each limitation of claims 1–7, 9–14, 16, 18, and 20–23. Pet. 4, 40–61.

1. Independent claim 1

We turn our analysis to the scope and content of the prior art and any differences between the prior art and the subject matter of independent claim 1, on a limitation-by-limitation basis.

a) Preamble

The preamble of claim 1 recites “[a] computer system having an interactive software application platform for providing a virtual thematic environment.” Ex. 1001, 43:36–38. Petitioner contends that Robinson discloses a network-enabled three-dimensional interactive computer environment. Pet. 44 (referencing Ex. 1008, code (57), 1:55–67). Petitioner adds that the computer environment includes extensions, including introducing avatars and supporting online games. *Id.* (referencing Ex. 1008, 9:29–31, 9:33–37).

Upon review of the information in the Petition and corresponding evidence (including Ex. 1004 ¶¶ 237–241), we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson

teaches or suggests the subject matter of the preamble. In view of this determination, we need not resolve, at this stage of the proceeding, whether the preamble is limiting.

Patent Owner does not dispute Petitioner's contentions with respect to the subject matter of the preamble at this stage of the proceeding.

b) Limitation 1[a]

Claim 1 also recites "a processor which executes a program having a plurality of modules." Ex. 1001, 43:39–40 (limitation "1[a]"). Petitioner contends that Robinson discloses a processor that executes instructions to perform different functions for the 3D computing environment, including installing 3D persistent kernel in a user's desktop environment. Pet. 44–45 (referencing Ex. 1008, 3:62–4:4, 10:23–29; Ex. 1004 ¶¶ 242–244).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson teaches or suggests the subject matter of limitation 1[a]. Patent Owner does not dispute Petitioner's contentions with respect to the subject matter of limitation 1[a] at this time.

c) Limitation 1[b]

The recited plurality of modules includes

at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment, the at least one thematic/publishing logic module being configured to allow a user to interact within said virtual thematic environment and upon a predetermined action within said virtual thematic environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment.

Ex. 1001, 43:41–51 (limitation “1[b]”). Petitioner contends that Robinson’s virtual environment can be extended to online games. Pet. 45 (referencing Ex. 1008, 9:33–37). Petitioner adds that the 3D environment also includes real-time avatars. *Id.* Petitioner, relying on Mr. Crane’s testimony, contends that it was well known that avatars were subjected to rules within a virtual environment, such as rules governing gravity, terrain following, and collisions with other objects. *Id.* at 45–46 (referencing Ex. 1004 ¶ 246); *see, e.g.*, Ex. 1004 ¶ 82 (“Each of the games reproduced here (as well as many others from the mid 1990s through the early 2000s) represented a virtual environment in which the players’ avatar moved about obstacles in racing-themed environments complete with signage and billboards.”), Ex. 1008, 15:48–54 (“[T]he user can click onto an avatar section of the advertisement and choose a virtual body (avatar) that will be the identification or representation of the user’s presence in the 3D advertisement VR environment. The user can then virtually walk around that advertisement.”).

Petitioner contends that Robinson discloses that a user can click on advertisements, promotions, or messages, and be taken to a related website to initiate an e-commerce transaction. Pet. 46 (referencing Ex. 1008, 15:5–25). Petitioner adds that a user can choose a virtual body (avatar) to be a presence in a 3D advertisement. *Id.* at 46–47 (referencing Ex. 1008, 15:48–52; Ex. 1004 ¶¶ 245–250). Petitioner also explains that a user can use drag and drop to customize the 3D environment. *Id.* at 46 (referencing Ex. 1008, 16:34–42); *see also* Ex. 1004 ¶ 249 (explaining Robinson’s drag and drop configuring (referenced at Pet. 47)).

Patent Owner argues that “Petitioner fails to explain how Robinson’s avatars can contain virtual thematic environment rules configured for a gaming environment.” Prelim. Resp. 30–31. First, Patent Owner argues that

Robinson does not use the word “rule.” *Id.* at 31. Also, Patent Owner argues that Petitioner contends that Robinson’s avatars are *subject* to environmental rules, so the avatars cannot contain any rules. *Id.*

Second, Patent Owner argues that Petitioner’s only support for its contention is a conclusory statement by Mr. Crane. Prelim. Resp. 31–32. Patent Owner argues that it and the Board are forced to search the supporting testimony in Mr. Crane’s declaration, such that the Petition incorporates the supporting testimony by reference. *Id.* at 32. Third, Patent Owner argues that Mr. Crane’s conclusory testimony is entitled to little weight. *Id.* (citing *Xerox Corp. et al. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022)).

Finally, Patent Owner argues that Petitioner fails to explain how a person having ordinary skill in the art would have modified Robinson to arrive at the subject matter of limitation 1[b]. Prelim. Resp. 33.

We have considered Patent Owner’s arguments and determine, on the current record, that they do not demonstrate a deficiency in Petitioner’s position. First, there is no requirement that a prior art reference use the same terminology as that used in a claim. *Cf. In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009) (stating that “the reference need not satisfy an *ipsissimis verbis* test,” in an anticipation analysis). Instead, we must inquire whether a person having ordinary skill in the art would have understood, at the time of the invention, that the prior art reference taught or suggested the subject matter at issue. *Cf. Celgene Corp. v. Peter*, 931 F.3d 1342, 1351 (Fed. Cir. 2019) (“The Board evaluated Dr. Fudin’s opinion and the supporting Mann study and credited his testimony that a person of ordinary skill in the art would have ‘understood the necessity of counseling males, capable of

impregnating females, about the risks that attend fetal exposure to a teratogenic drug.””).

Also, we do not agree with Patent Owner that a disclosure that avatars are *subject* to environmental rules means that Robinson’s virtual thematic environment does not *contain* virtual thematic environment rules. We understand Petitioner to contend that a person having ordinary skill in the art would have understood from Robinson’s teachings that the avatars of Robinson’s 3D environment move and interact based on rules contained within the 3D environment, such as an environment extended to an online game. *See* Pet. 45–46.

As to Patent Owner’s other arguments, we do not agree, on the current record, that Mr. Crane’s testimony is conclusory or that Patent Owner or the Board was forced to go searching for support for his testimony. Mr. Crane states that “[i]n forming my opinion, I have drawn on my academic background and professional experiences. My opinions herein, however, were formed taking into account the perspective of an ordinarily skilled artisan.” Ex. 1004 ¶ 44; *see also id.* ¶¶ 5–20 (providing Mr. Crane’s background and qualifications, including reference to his curriculum vitae (Ex. 1005)). Also, Mr. Crane provides background information to the subject matter of the ’724 patent in support of his testimony. *See id.* ¶¶ 71–86.

Finally, we do not understand Petitioner to contend that Robinson must be modified to arrive at the subject matter of limitation 1[b]. Instead, Petitioner contends that Robinson teaches or suggests to a person having ordinary skill in the art the subject matter of the limitation. *See* Pet. 45 (“Robinson teaches this limitation.”).

Upon review of the information in the Petition and corresponding evidence, and Patent Owner’s counter arguments, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson teaches or suggests the subject matter of limitation 1[b].

d) Limitation 1[c]

Claim 1 also recites “wherein said data or said objects are automatically integrated into the virtual thematic environment during execution of the virtual thematic environment.” Ex. 1001, 43:52–54 (limitation “1[c]”). Petitioner contends that Robinson discloses that a new product or object may be dropped and dragged into the 3D environment, where it is integrated into the environment. Pet. 47 (referencing Ex. 1004 ¶ 251); *see* Ex. 1008, 8:44–50, 15:25–31. Mr. Crane testifies that such a drag and drop causes the integration of the product automatically, that is, “without human initiation or intervention.” Pet. 47; Ex. 1004 ¶ 251; *see also id.* ¶ 249 (explaining Robinson’s drag and drop configuring).

Patent Owner argues that Mr. Crane’s testifies that integration of a product or object occurs upon a “drop,” that is, a release of the mouse button and such action would be a human action, not an automatic action. Prelim. Resp. 35. Patent Owner again argues that Petitioner does not explain how Robinson is modified to satisfy the subject matter of this limitation. *Id.* at 36.

We have considered Patent Owner’s arguments and determine, on the current record, that they do not demonstrate a deficiency in Petitioner’s position. First, we do not understand Petitioner to contend that Robinson must be modified to arrive at the subject matter of limitation 1[c]. *See* Pet. 45 (“Robinson teaches this limitation.”). Instead, Petitioner contends

that Robinson teaches or suggests to a person having ordinary skill in the art the subject matter of the limitation. *See id.* at 47–48.

We also determine, on the current record, that Petitioner has made a sufficient showing for institution that Robinson teaches automatically initiating a program following a drag and drop action. That is, after the object is dropped, then the computer, in recognizing the insertion of the object, automatically initiates loading the object into the 3D environment. *See* Ex. 1004 ¶ 251.

Upon review of the information in the Petition and corresponding evidence, and Patent Owner’s counter arguments, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson teaches or suggests the subject matter of limitation 1[c].

e) Limitation 1[d]

The recited plurality of modules also includes “at least one digital content library module which provides content management on the virtual thematic environment.” Ex. 1001, 43:55–57 (limitation “1[d]”). Petitioner contends that registry object 350 corresponds to the recited digital content library. Pet. 48 (referencing Ex-1008, 7:14–22; Ex-1004 ¶¶ 253–255). Robinson states that “registry object 350 is a database that distributes and tracks the network-enabled 3D computing environment visual objects, stores objects to be downloaded to the user object 310 and the network-enabled 3D computing environment, and contains software updates for the network-enabled 3D computing environment’s structured software developer’s kits (SDKs) 312.” Ex-1008, 7:16–22.

Patent Owner argues that Petitioner fails to demonstrate that registry object 350 provides content management on the virtual thematic environment as required by the claim, and instead merely describes the

function of the registry object. Prelim. Resp. 36–37. Patent Owner also argues that Petitioner’s contention is undermined by Mr. Crane’s testimony identifying Robinson’s 3D desktop program as teaching the limitation. *Id.* at 37 (referencing Ex. 1004 ¶ 254).

Finally, Patent Owner argues that Petitioner does not provide a motivation to modify Robinson’s teachings to arrive at the subject matter of the limitation. Prelim. Resp. 37.

We have considered Patent Owner’s arguments and determine, on the current record, that they do not demonstrate a deficiency in Petitioner’s position. First, we do not understand Petitioner to contend that Robinson must be modified to arrive at the subject matter of limitation 1[d]. *See* Pet. 48 (“Robinson teaches this limitation.”). Next, we determine, on the current record, that Petitioner’s reliance on Robinson’s description of registry object 350 is sufficient at this stage of the proceeding. Robinson expressly discloses that registry object 350 “distributes and tracks the network-enabled 3D computing environment visual objects, [and] stores objects to be downloaded to the user object 310 and the network-enabled 3D computing environment.” Ex-1008, 7:16–20. As such, it provides content management on the virtual thematic environment—the 3D computer environment—which may be extended to an online game.

We do not find, on the current record, that Mr. Crane’s testimony is inconsistent. As Robinson discloses, registry object 350 distributes visual objects in the 3D environment, which includes the 3D desktop. That is, registry object 350 underlies the drag and drop interface of the 3D desktop, an exemplary manifestation of the action of the registry object. *Cf.* Ex. 1004 ¶ 254 (“As an initial *example*, the 3D desktop manages positions of content resulting from a drag-and-drop interface.” (emphasis added)).

Upon review of the information in the Petition and corresponding evidence, and Patent Owner’s counter arguments, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson teaches or suggests the subject matter of limitation 1[d].

f) Limitation 1[e]

The recited plurality of modules also includes “at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device.” Ex. 1001, 43:58–60 (limitation “1[e]”). Petitioner contends that Robinson discloses that a three-dimensional environment may be downloaded by a user to their desktop, PDA, cell phone, etc. (therefore any device) where an interpreter interprets incoming data for presentation to the desktop.” Pet. 48–49; *see id.* at 49 (quoting Ex. 1008, 7:55–58, 7:82–67, 12:13–18; referencing Ex. 1004 ¶¶ 256–259).

Patent Owner argues that Petitioner alleges that it demonstrates that Robinson discloses a quantum imaging environment module based on the construction of that term reached in the *Niantic* case, and that Mr. Crane applies that construction to his analysis. Prelim. Resp. 38⁷ (citing Pet. 12; Ex. 1004 ¶ 67). Patent Owner argues that neither Petitioner nor Mr. Crane explain how this construction is satisfied. *Id.* at 39. Patent Owner argues that Petitioner does not explain how Robinson discloses a software layer. *Id.*

⁷ The construction of “quantum imaging environment (QIE) module” at issue is “software layer which receives and interprets content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment.” *See* Prelim. Resp. 38; Ex. 1010, 7.

Next, Patent Owner argues that “Petitioner has made no showing that Robinson’s interpreter manipulates content based on the receiving user’s *device* type as required by the . . . construction.” Prelim. Resp. 39. Patent Owner argues that Robinson’s interpreter manipulates content based on content type, not a receiver’s device. *Id.* Patent Owner adds that Robinson’s interpreter resides on the consumer computer device, so it cannot satisfy the construction. *Id.* Patent Owner argues that “Robinson does not and cannot disclose determining the user’s device type needed for QIE’s content manipulation.” *Id.* at 40.

Finally, Patent Owner again argues that the Petitioner provides no motivation to modify Robinson’s teachings to arrive at the limitation. Prelim. Resp. 40.

We have considered Patent Owner’s arguments and determine, on the current record, that they do not demonstrate a deficiency in Petitioner’s position. First, we do not understand Petitioner to contend that Robinson must be modified to arrive at the subject matter of limitation 1[e]. *See* Pet. 48 (“Robinson teaches this limitation.”). As another preliminary matter, we note that neither Petitioner nor Patent Owner provides a construction of the term quantum imaging environment module. *See* Pet. 9–12; Prelim. Resp. 5. Also, in addressing the *Niantic* Court’s construction, the Petition does not include a construction for the term quantum imaging environment module. *See* Pet. 11. We do note that Mr. Crane does seem to apply the subject construction. *See* Ex. 1004 ¶ 67.

Also, in the Litigation involving the ’724 patent, the court has now provided its Claim Construction Order, construing the term quantum imaging environment module “[a] software layer which receives and interprets content such that the content is manipulated so as to be accessible

on different types of devices for use within the virtual thematic environment.” Ex. 3003, 4. The court in the underlying Litigation does not provide any analysis for the construction and cites to the *Niantic* case. Still, for the purposes of this Decision, we apply the court’s construction from the underlying Litigation.

Second, we determine, on the current record, that Robinson teaches or suggests a software layer that receives and interprets content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment. Robinson expressly discloses that the Persistent Client is software that is downloaded by a user. *See* Ex. 1008, 12:3–29. Significant to our Decision here, Robinson discloses that the Persistent Client may be downloaded to a desktop, personal data assistant or cell phone. *See id.* at 12:13–18; Pet. 49. This disclosure at least suggests that the Persistent Client interprets content such that the content is manipulated and accessed by different device types.

As to Patent Owner’s argument that Robinson’s interpreter resides on the consumer computer device, so it cannot satisfy the construction, we determine, on the current record, that this argument fails to appreciate what would be suggested to a person having ordinary skill in the art. User object 310, which “contains everything that happens at a single computer,” includes interpreter 318.” Ex. 1008, 7:7–8, 7:55–56. “[I]nterpreter 318 is . . . specific to the network-enabled 3D computing environment. It allows the 3D desktop 314 to interpret incoming data from the Internet 320, for presentation to the desktop 314.” *Id.* at 7:55–58. It follows that “desktop 314” would be the different desktops for the different types of devices. We base our understanding, in part, on Mr. Crane’s testimony. *See* Ex. 1004 ¶¶ 256 (“While most of Robinson’s disclosures center around a traditional

desktop computer embodiment, Robinson teaches that the invention can be implemented on a plurality of devices such that each of which would necessarily interpret the 3D environment in a way as to make it operated specifically for said device.”), 257 (“For the 3D desktop to be compatible with such a plurality of devices, each would necessarily interpret the 3D environment in a way as to make it operable specifically for said device”).

Finally, to the extent that Patent Owner contends that the quantum imaging environment module itself must *determine* the user’s device type, we do not read the construction of the term (based on the incomplete record before us) to includes such a requirement. We do not discern any language that would limit this determination to the quantum imaging environment module, as opposed to some other software module.

Upon review of the information in the Petition and corresponding evidence, and Patent Owner’s counter arguments, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson teaches or suggests the subject matter of limitation 1[e].

g) Limitation 1[f]

Finally, claim 1 recites “a display which displays the virtual thematic environment as images.” Ex. 1001, 43:61–62 (limitation “1[f]”). Petitioner contends that Robinson discloses display device 204. Pet. 49 (referencing Ex. 1008, 4:17–23, 9:31, 9:33–37; Ex. 1004 ¶ 260).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Robinson teaches or suggests the subject matter of limitation 1[f]. Patent Owner does not dispute Petitioner’s contentions with respect to this claim limitation at this time.

h) Conclusion, independent claim 1

For the reasons discussed above, we determine, on the current record, that the information presented in the Petition sufficiently demonstrates that claim 1 is unpatentable under 35 U.S.C. § 103 over Robinson.

2. Dependent claims 2–7, 9–14, 16, 18, and 20–23

As we discuss above, Petitioner has sufficiently demonstrated that the information presented in the Petition renders obvious claim 1, and we institute on all challenges raised in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”); 37 C.F.R. § 42.108(a) (“When instituting inter partes review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”). Patent Owner does not make any separate arguments directed to these dependent claims. *See Prelim. Resp.* 41.

E. Ground 1: Claims 1–7, 9–14, 16, 18, and 20–23 as unpatentable over Angles

Petitioner contends that Angles, in view of the knowledge of a person having ordinary skill in the art, teaches or suggests each limitation of claims 1–7, 9–14, 16, 18, and 20–23. *Pet.* 4, 13–39. As we discuss above, Petitioner has sufficiently demonstrated that the information presented in the Petition renders obvious claim 1 over Robinson, and we institute on all challenges raised in the Petition. *See SAS Inst., Inc.*, 138 S. Ct. 1348, 1354, 1359–60 (2018); 37 C.F.R. § 42.108(a). With respect to Patent Owner’s arguments directed to Ground 1, we will address these arguments, if maintained, on the complete record. *See Prelim. Resp.* 7–29 (providing

arguments against Petitioner’s contentions with respect to Ground 1, claim 1, and no separate arguments for the dependent claims).

III. DISCRETION UNDER 35 U.S.C. § 314(A)

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition. Prelim. Resp. 41–51. Section 314(a) states that

The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Under § 314(a), we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016). We consider several factors when determining whether to deny institution under § 314(a) based on a parallel district court proceeding, specifically

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). We also consider “several

clarifications” made by the Director of the United States Patent and Trademark Office (“USPTO”). *See* USPTO Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, 2 (June 21, 2022), *available at* https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf (“Director’s Memo”).

1. *Factor 1 — Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted*

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Fintiv*, Paper 11 at 6. Both parties indicate that no stay has been requested. Pet. 62; Prelim. Resp. 43. Also, neither party identifies any statements by the district court or other evidence that specifically address a stay of the Litigation pending this proceeding.

We decline to speculate based on the record in this case whether the district court would grant a stay of the Litigation. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“*Fintiv II*”). As a result, we determine that the first *Fintiv* factor is neutral.

2. *Factor 2 — Proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision*

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv*, Paper 11 at 6. Petitioner argues that “[i]t is . . . improper to assume that the district court will stick to the current trial schedule” of April 15, 2024. Pet. 63; *see also* Ex. 1009, 3 (providing a trial

date of April 15, 2024⁸). Petitioner also argues that there is a pending motion to transfer the case from Waco to Austin, which would delay the trial date⁹. Pet. 63.

Patent Owner argues that “there is no evidence that the parties’ trial will be extended . . . past the statutory deadline for the” Final Written Decision in this matter. Prelim. Resp. 45. Patent Owner also provides specific statistics for patent trials in the Western District of Texas (25.4 months from complaint to trial) and patent cases in front of Judge Albright (24.7 months from complaint to trial). *Id.* at 46–47 n.10 (referencing Exhibits 2004 and 2005, which are from Lex Machina)¹⁰. The Complaint in the Litigation was filed June 3, 2022. Ex. 1006. As such, the available statistics would suggest a trial date between June 2024, and August 2024, or 4 to 6 months prior to the statutory deadline for a Final Written Description in this proceeding.

Significant to this factor, the latest proposed scheduling order in the Litigation has moved the trial date to August 5, 2024, or approximately 4 months before the Final Written Decision is due. *See* Ex. 3002, 5. This proposed date represents a four-month delay in the trial date as compared to

⁸ April 15, 2024 is approximately 8 months prior to the statutory deadline for this proceeding.

⁹ With respect to Petitioner’s motion to transfer the Litigation to Austin from Waco, we note that the motion has been granted and the case was transferred within the Western District of Texas from Waco to Austin, but the trial judge and schedule has remained unchanged. *See* Ex. 3001, 1–2.

¹⁰ The United States Courts indicates that the median time from filing a complaint to trial in the Western District of Texas is 26.4 months. *See U.S. District Courts–Combined Civil and Criminal Federal Court Management Statistics* (June 30, 2023) (available at [fcms_na_distprofile0630.2023.pdf](https://www.uscourts.gov/fcms_na_distprofile0630.2023.pdf) ([uscourts.gov](https://www.uscourts.gov))) (last visited November 27, 2023).

the trial date the parties argued discretionary denial in the Petition and Preliminary Response.

In consideration of the above discussion, and particularly the latest proposed scheduling order, we determine that the second *Fintiv* factor weighs against discretionary denial of the Petition.

3. *Factor 3 — Investment in the parallel proceeding by the court and the parties*

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. Petitioner argues that the Litigation is in the early stages and that a *Markman* hearing, schedule for September 1, 2023, will not have a bearing on this *inter partes* review as Petitioner does not propose any constructions. Pet. 64.

Patent Owner argues that the District Court and the parties have invested significant time and resources in the Litigation. Prelim. Resp. 47. Patent Owner argues that, by the time we render an institution decision, the parties would have completed claim construction briefing and the court would have ruled on the transfer motion; the parties would have conducted a *Markman* hearing and the court would have provided its constructions; the parties would have exchanged final infringement and invalidity contentions; and fact discovery would have closed. *Id.* at 48 (referencing Ex. 1010).

In consideration of the above discussion, we determine that the third *Fintiv* factor weighs in favor of discretionary denial of the Petition. The parties and court will have invested significant time and resources in the Litigation by the time of this Decision. These efforts, however, are not as extensive as Patent Owner argues, as the close of fact discovery has been

delayed to either the end of January, 2024, or the beginning of March, 2024.
See Ex. 3002, 5.

4. *Factor 4 — Overlap between issues raised in the petition and in the parallel proceeding*

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 6. Petitioner states that, by instituting trial, we would narrow issues in the Litigation. Pet. 64. Petitioner adds that “[t]o reduce overlap further, if the Board institutes [*inter partes* review] in this proceeding, Petitioner will cease asserting in the [r]elated [m]atter the prior art for the claims on which the [*inter partes* review] is instituted.” *Id.* (citing *Sand Revolution II, LLC v. Continental Intermodal Group — Trucking LLC*, IPR2019- 01393, Paper 24 at 11–12 (PTAB June 16, 2020) (“*Sand Revolution II*”), and *Apple Inc. v. Maxell, Ltd.*, IPR2020-00204, Paper 11 at 15–17 (PTAB June 19, 2020)).

Patent Owner argues that Petitioner asserts invalidity over Angles and Robinson in the Litigation. Prelim. Resp. 49. Patent Owner adds that the stipulation offered by Petitioner is not a *Sotera*-type stipulation, characterizing Petitioner’s stipulation as “narrow.” *Id.* Patent Owner argues that instituting trial would not be an effective use of Board resources nor be an efficient alternative to district court litigation. *Id.* at 50.

We agree with Patent Owner that Petitioner provides a narrow stipulation. *Cf.* Director’s Memo, 7–8 (stating that the Board “will not discretionarily deny institution of an IPR or PGR in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the *petition or any grounds that could have reasonably been raised in the petition*”); *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1,

2020) (precedential as to § II.A). Still, the provided stipulation does reduce concerns of overlapping issues. In comparison, in *Sand Revolution II*, the Board found that “this factor weighs marginally in favor of not exercising discretion to deny institution” when the petitioner stipulates not to pursue in district court the same grounds presented in its petition. *Sand Revolution II*, Paper 24 at 11–12. Thus, we determine that the fourth *Fintiv* factor weighs slightly against discretionary denial of the Petition.

5. *Factor 5 — Whether the petitioner and the defendant in the parallel proceeding are the same party*

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, Paper 11 at 6. Here, Petitioner is the defendant in the Litigation. Pet. 65. Under the circumstances here, where a trial in the district court involving the same parties may begin prior to our Final Written Decision, we determine that the fifth *Fintiv* factor slightly favors discretionary denial of the Petition.

6. *Factor 6 — Other circumstances that impact the Board’s exercise of discretion, including the merits*

Petitioner argues that the ’724 patent has never been challenged before in a post-issuance proceeding. Pet. 65. Petitioner also argues that “[g]iven the strength of the challenge to patentability presented in this Petition, denying this [P]etition under § 314(a) would be unfairly prejudicial to Petitioner, and this factor weighs against discretionary denial.” *Id.* Patent Owner responds that its Preliminary Response identifies weaknesses in Petitioner’s challenges. Prelim. Resp. 50.

“[W]here the PTAB determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily

deny institution under *Fintiv*.” Director’s Memo, 4–5. “Compelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.* at 4. As will be evident from our conclusion below, we need not determine if Petitioner’s challenges rise to the level of “compelling” challenges.

7. *Summary and conclusion*

Based on our holistic view of the *Fintiv* factors, we decline to exercise our discretion under § 314(a) to deny the Petition. As discussed above, only factor 5 weighs in favor of discretionary denial, factor 1 is neutral, and factors 2, 3, and 4 weigh, in varying degrees, against discretionary denial of institution, with factors 2 and 3 being the most compelling factors. Given that the trial date has already been delayed to just four months prior to the statutory deadline for a Final Written Decision in this case and that the current proposed scheduling order pushes significant discovery efforts well into 2024, the evidence of record does not favor exercising our discretion to deny institution of this *inter partes* review.

IV. CONCLUSION

Based on the information presented, we determine Petitioner has established a reasonable likelihood that it would prevail with respect to at least one of the Challenged Claims. Accordingly, we institute an *inter partes* review on all challenges.

V. ORDER

Accordingly, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–7, 9–14, 16, 18, and 20–23 of the ’724 patent is *instituted*; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), notice is hereby given of the institution of trial, which will commence on the entry date of this Decision.

IPR2023-00959
Patent 10,255,724 B2

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